

Claims

- 5 1. A method for improving transmission performance of a
Transport Layer Protocol (TLP) connection that uses a
data transmission service of a bearer, comprising:
monitoring data traffic of said TLP connection, and
dynamically adjusting a transmission capacity of
10 said bearer according to said monitored data traffic of
said TLP connection.
2. The method according to claim 1, wherein said TLP is
a Transport Control Protocol (TCP) or a User Datagram
15 Protocol (UDP).
3. The method according to claim 1, wherein
transmission capacity adjustment information is signaled
from at least one TLP instance to at least one bearer
20 instance.
4. The method according to claim 1,
wherein said bearer provides uplink and downlink
transmission capacity,
25 wherein said data traffic of said TLP connection
comprises uplink and downlink data traffic that is
separately monitored, and
wherein said uplink and downlink transmission
capacity is at least partially separately adjusted
30 according to said monitored respective uplink and
downlink data traffic.

5. The method according to claim 4, wherein said uplink and downlink data traffic is at least partially asymmetric.

5 6. The method according to claim 1, wherein said data traffic of said TLP connection is monitored at least partially by monitoring a state of at least one TLP segment buffer.

10 7. The method according to claim 1, wherein said data traffic of said TLP connection is monitored at least partially by monitoring data input to at least one TLP socket.

15 8. The method according to claim 1, wherein said bearer is a packet-switched or circuit-switched bearer.

9. The method according to claim 1, wherein said bearer is at least partially based on wireless transmission.

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10. The method according to claim 1, wherein said bearer is a High-Speed Circuit Switched Data (HSCSD) bearer of a Global System for Mobile Communication (GSM) or of a derivative thereof.

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11. The method according to claim 10, wherein said transmission capacity of said bearer is adjusted according to said monitored data traffic of said TLP connection by changing a maximum number of traffic
30 channels, at least one air interface user rate parameter, or both.

12. The method according to claim 11, wherein said change is performed by using a Call Control (CC) User Initiated Service Level (UISL) up- and downgrading procedure.

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13. The method according to claim 1, wherein said bearer is a General Packet Radio Service (GPRS) bearer or an Enhanced GPRS (EGPRS) bearer of a Global System for Mobile Communications (GSM) or of a derivative thereof.

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14. The method according to claim 13, wherein said transmission capacity of said bearer is adjusted according to said monitored data traffic of said TLP connection by influencing a Temporary Block Flow (TBF)

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setup.

15. The method according to claim 1, wherein said bearer is a bearer that uses Code Division Multiple Access (CDMA) as medium access technique, in particular a bearer of an IS-95 system or of a derivative thereof.

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16. The method according to claim 1, wherein said bearer is a Universal Mobile Telecommunications System (UMTS) bearer or a bearer of a derivative of said system.

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17. A computer program with instructions operable to cause a processor to perform the method steps of claim 1.

18. A computer program product comprising a computer program with instructions operable to cause a processor to perform the method steps of claim 1.

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19. A device for improving transmission performance of a Transport Layer Protocol (TLP) connection that uses a data transmission service of a bearer, comprising:

- means for monitoring data traffic of said TLP connection, and
- means for dynamically adjusting the transmission capacity of said bearer according to said monitored data traffic of said TLP connection.

20. A mobile terminal using a Transport Layer Protocol (TLP) connection that uses a data transmission service of a bearer, comprising:

- means for monitoring data traffic of said TLP connection, and
- means for dynamically adjusting transmission capacity of said bearer according to said monitored data traffic of said TLP connection.

21. The device according to claim 20, wherein said TLP is a Transport Control Protocol (TCP) or a User Datagram Protocol (UDP).

22. The device according to claim 20, further comprising means for signaling transmission capacity adjustment information from at least one TLP instance to at least one bearer instance.

23. The device according to claim 20, wherein said bearer provides uplink and downlink transmission capacity,

wherein said data traffic of said TLP connection comprises uplink and downlink data traffic that is separately monitored, and

5 wherein said uplink and downlink transmission capacity is at least partially separately adjusted according to said monitored respective uplink and downlink data traffic.

24. The device according to claim 23, wherein said
10 uplink and downlink data traffic is at least partially asymmetric.

25. The device according to claim 20, wherein said data traffic of said TLP connection is monitored at least
15 partially by monitoring a state of at least one TLP segment buffer.

26. The device according to claim 20, wherein said data traffic of said TLP connection is monitored at least
20 partially by monitoring data input to at least one TLP socket.

27. The device according to claim 20, wherein said
25 bearer is a packet-switched or circuit-switched bearer.

28. The device according to claim 20, wherein said bearer is at least partially based on wireless transmission.

30 29. The device according to claim 20, wherein said bearer is a High-Speed Circuit Switched Data (HSCSD)

bearer of a Global System for Mobile Communication (GSM) or of a derivative thereof.

30. The device according to claim 20, wherein said
5 bearer is a General Packet Radio Service (GPRS) bearer or an Enhanced GPRS (EGPRS) bearer of a Global System for Mobile Communications (GSM) or of a derivative thereof.

31. The device according to claim 20, wherein said
10 bearer is a bearer that uses Code Division Multiple Access (CDMA) as medium access technique, in particular a bearer of an IS-95 system or of a derivative thereof.

32. The device according to claim 20, wherein said
15 bearer is a Universal Mobile Telecommunications System (UMTS) bearer or a bearer of a derivative of said system.

33. A system, comprising:
at least one terminal, and
20 at least one network interface,
wherein said at least one terminal and said at least one network interface use a Transport Layer Protocol (TLP) connection that uses a data transmission service of a bearer, wherein data traffic of said TLP
25 connection is monitored and wherein a transmission capacity of said bearer is dynamically adjusted according to said monitored data traffic of said TLP connection.

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